



City of Grants Pass  
Water Treatment Plant  
Project Delivery Method Evaluation

**FINAL**

July 6, 2018

Prepared for:




The City of Grants Pass, Oregon

Prepared by:


Stantec Consulting Services, Inc.

# Sign-off Sheet

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# Water Treatment Plan Project Delivery Method Evaluation Report

## Executive Summary

The City of Grants Pass' (City's) existing water treatment plant (WTP) has components that have reached the end of their useful lives and has seismic vulnerabilities. As a result, the City Council adopted an initiative to build a new Water Treatment Plant (WTP Project). The Water Treatment Plant Project Delivery Method Evaluation Report describes Stantec Consulting's evaluation of alternative project delivery methods that could be used to deliver the WTP Project.

The public sector's traditional contract award method is commonly referred to as the "design-bid-build" (DBB) because the design contract is awarded separately from the construction contract. Alternative project delivery (APD) is designed to encourage greater collaboration between the engineer, consultant, construction contractor(s), and Owner(s) in order to deliver a project that most-closely meets the Owner's needs and budget. In some cases, these alternative approaches allow for value-based procurements, in lieu of strict low-price selection.

Stantec's evaluation of the delivery methods for the WTP Project consisted of compiling a complete list of viable delivery methods, shortlisting alternatives based on obvious deficiencies of certain methods, developing and weighing evaluation criteria within the context of the City's values and the Project's needs, assigning scores to each alternative, and presenting the score results and final recommendation to City Council for approval. During the course of the evaluation process, three workshops were held with City Council in order to allow the Council members to make an informed evaluation of the final recommendation (March 26, April 23, and May 30, 2018).

The initial screening process eliminated options that involved private financing and contract operation options that did not need to be decided immediately. The shortlisted alternative project delivery methods included Design-Bid-Build, Construction Manager / General Contractor, Progressive Design-Build, Lump Sum / Design-Build, and Design-Build-Operate (each are described in detail in the full report). Those alternatives were then scored within the context of the followed weighted criteria.

- Project delivery method familiarity (weight = 3.8%)
- Ability to make a qualification-based selection of the contractor (weight = 6.0%)
- Owner input during design (weight = 29.7%)
- Contractor input during design (weight = 15.4%)
- Cost elements (weight = 34.1%)
- Risk allocation (weight = 6.6%)
- Schedule (weight = 4.4%)

Based on our evaluation of the above criteria for each delivery method and with concurrence by the City Council during the May 30, 2018 workshop, Stantec recommends that the City use Progressive Design Build to deliver the WTP Project. The most notable advantages of PDB for the City include:

- 1) The single point of responsibility through a design-build contract;
- 2) The ability to allocate risk to the party that can best manage the risk;
- 3) The progressive development of scope and budget;
- 4) The involvement of the contractor during the design phase; and
- 5) The City staff's familiarity with the process.

As next steps, the City should (1) develop the "finding of fact" as required by ORS 279, and (2) begin to formulate the specific procurement strategy and sequence.

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## Abbreviations

APD	Alternative Project Delivery
CM/GC	Construction Management / General Contractor
DB	Design-Build
DBB	Design-Build-Build
DBO	Design-Build-Operate
FTE	full-time equivalents (employees)
GMP	Guaranteed Maximum Price
LS/DB	Lump-Sum / Design-Build
MG	million gallons
MGD	million gallons per day
OAR	Oregon Administrative Rules
OPCC	Opinion of Probable Construction Cost
P/DB	Progressive Design-Build
TM	Technical Memorandum
VE	Value Engineering
WTP	Water Treatment Plant

## 1.0 INTRODUCTION & BACKGROUND

The City of Grants Pass' (City's) existing water treatment plant (WTP) has components that have reached the end of their useful lives and has seismic vulnerabilities. It is the only source of water for the community. Recognizing this, the City Council adopted an initiative to build a new Water Treatment Plant as its number one priority under its Strategic Goal to "Maintain, Operate and Expand our Infrastructure to Meet Community Needs".

The purpose of this report is to describe Stantec Consulting's evaluation of conventional and alternative project delivery (APD) methods that could be used to deliver the WTP Project. The analysis presented herein considers the manner in which different project delivery methods would meet the WTP Project goals. This report concludes with a recommended project delivery model, which was accepted by City Council during a May 30, 2018 workshop.

## 2.0 ALTERNATIVE PROJECT DELIVERY, IN GENERAL

Public agencies have traditionally awarded most public works construction projects to the lowest responsive, responsible bidder. This contract award method is commonly referred to as the “design-bid-build” (DBB) project delivery method, because the design contract is awarded separately from the construction contract. Alternative project delivery (APD) has become increasingly popular for implementing water utility projects over the past 15 to 20 years, especially WTPs. Large utilities like Tacoma (WA) and Portland (OR) have recently used APD for water treatment projects, as well as smaller systems such as Lebanon (OR) and Mountain Home Air Force Base (ID). The fundamental purpose of alternative project delivery is to encourage greater collaboration between the engineer, consultant, construction contractor(s), and Owner(s) in order to deliver a project that most-closely meets the Owner’s needs and budget. In some cases, these alternative approaches allow for value-based procurements, in lieu of strict low-price selection.

Oregon law enables the use of alternative procurement methods within defined circumstances. Specifically, ORS 279C.335(2) allows public agencies to create exemptions to the standard competitive bidding requirements for construction contracts if the agency produces a “finding of fact” document that demonstrates that the delivery method is (1) unlikely to encourage favoritism or substantially diminish competition for public contracts, (2) the exception is reasonably expected to result in substantial cost savings/substantial benefits to the contracting agency, and (3) the exemption will result in additional public benefit.

Based on Stantec’s experience and based on project delivery methods that are widely used within Oregon, all project delivery methods that were evaluated in this project (see Section 3.1) meet the requirements of Oregon law.

## 3.0 EVALUATION PROCESS

Stantec's evaluation of potential project delivery methods for the WTP Project followed these steps:

1. Compiled a complete list of viable delivery methods;
2. Shortlisted the alternatives based on obvious deficiencies of certain methods (See Section 3.2 "Initial Screening");
3. Developed evaluation criteria that could be used to differentiate the relative benefits of each delivery method;
4. Weighed each evaluation criterion within the context of the City's values and the Project's needs;
5. Assigned scores to each alternative for each criterion; and
6. Presented the score results and final recommendation to City Council for approval.

During the course of the evaluation process for this WTP project, two educational workshops were presented to City Council in order to allow the Council members to make an informed evaluation of the final recommendation. At the first workshop (March 26, 2018), Stantec gave an overview presentation of all viable delivery methods and the key characteristics and advantages of each method. The content of that workshop is largely captured in **Section 4.0** of this report.

The second workshop (held April 23, 2018) was dedicated to discussing the City's options with respect to private operations. A summary of that presentation is provided in **Section 3.2.2**.

During the final workshop (held May 30, 2018), a summary of the evaluation criteria, weighting, and scoring was presented, a recommendation was provided, discourse/questions were encouraged, and council selected to move forward with a Progressive Design-Build delivery method.

The PowerPoint presentations for the three workshops above have been attached as **Appendices 1, 2, & 3**.

### 3.1 Delivery Methods

As previously mentioned, a comprehensive list of delivery methods was considered during the preliminary stages of the evaluation. While it is outside of the scope of this report to describe the numerous combinations of alternatives in detail, a detailed description of the shortlisted alternatives has been provided in **Section 4.0**. The initial list of delivery methods included:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>J Design-Bid-Build (DBB)</li> <li>J Construction Manager / General Contractor (CM/GC in Oregon, a.k.a "construction management at risk")</li> <li>J Progressive Design-Build (PDB)</li> <li>J Lump Sum Design-Build (LS/DB)</li> <li>J Design-Build-Operate (DBO)</li> <li>J Privatization</li> <li>J Merchant Plant</li> </ul> | <ul style="list-style-type: none"> <li>J Design-Build-Operate-Finance (DBOF)</li> <li>J Design-Build-Operate-Transfer (DBOT)</li> <li>J Design-Build-Operate-Own (DBOO)</li> <li>J Other forms of integrated project delivery and public private partnerships that have various combinations of financing, private operations and/or ownership structures.</li> </ul> |
|--|---|

## 3.2 Initial Screening

The purpose of the initial screening exercise was to reduce the number of delivery methods to a list that was manageable to evaluate and compare. The streamlining of alternatives was particularly important given the fact that the Grants Pass City Council was the ultimate arbiter of the delivery method selection. Stantec recognized that the members of the Council are not expected to be experts in the field of capital project delivery, therefore a clear and concise evaluation was needed to make the selection process more valuable.

When considering the list of project delivery alternatives in Section 3.1, there were two options that were identified as either being poor fits for the City or weren't advisable to make a commitment at this time. Those options were (1) the use of private debt to finance the WTP Project, and (2) the use of contracted operations. By eliminating these options from consideration, the long list of potential delivery methods was reduced to a manageable list of five options (as described in Section 4.0).

### 3.2.1 Private Sector Financing

For the purpose of this evaluation, private sector financing is any form of debt financing that uses private capital instead of City tax-exempt debt financing (such as general obligation bonds or revenue bonds). Due to the tax-exempt status of municipal bonds and the existence of federal loan programs, the interest rates for City debt has historically been materially lower than private capital. While markets are in constant flux, the interest rates can be 3% to 4% lower for municipal bonds. It has been postulated that the recent changes to corporate tax structure may cause a shift in that balance, however at the time of this report, the effects of those policies have yet to materialize.

The fact of the matter is that private sector financing is almost exclusively used by local governments that have nearly no other access to capital. This may be due to the agency's credit rating, debt profile, or lack of government funding programs. In any case, this does not apply to the City of Grants Pass, which has a healthy credit rating and the ability to adjust rates to meet debt financing requirements.

Given the fact that cost is a critical evaluation criterion for the City, the option of private sector financing was eliminated.

### 3.2.2 Contract Operations

When evaluating the various delivery methods described in Section 3.1, it should be noted that nearly every method **could be concluded with a separate contract for contract operations**. In fact, the only delivery methods that preclude the option of *separate* contract operations are those delivery methods that already include operations as part of the contract (e.g. DBO).

The benefits of contract operations may include:

- 1) Guaranteed operational costs for a defined period;
- 2) Transfer of risks such as hiring and retaining qualified/certified operators; and
- 3) The potential for reducing costs through increased automation, lower consumable costs from greater purchasing power, and reductions in the employee benefit package (i.e. PERS, paid leave, insurance, etc.)

There are also potential disadvantages to contract operations including the long-term commitment, a potential for a decrease in service levels, and the potential for an increase in costs due to the transfer of risk.

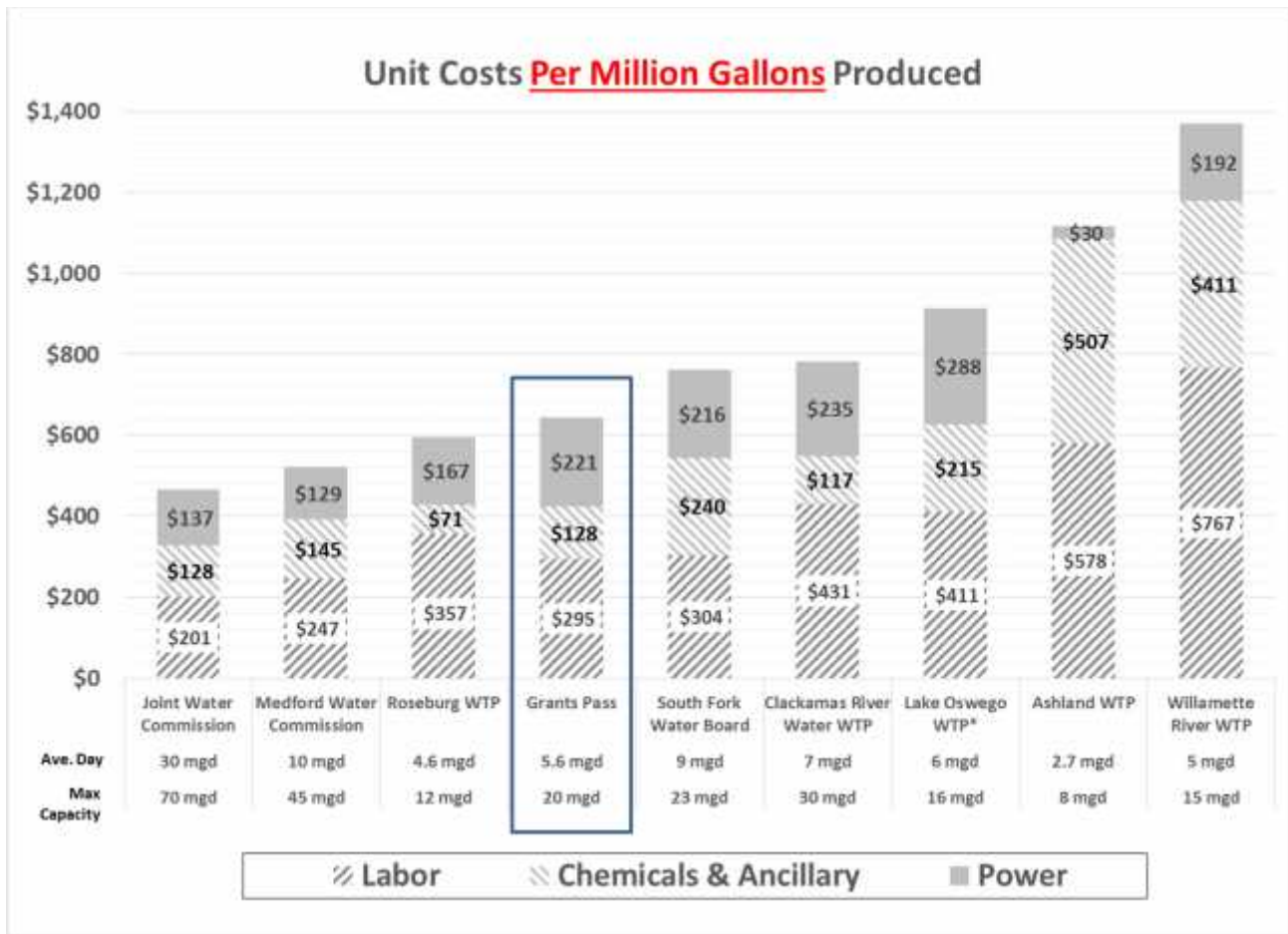
Stantec's high-level review of the current operations at the Grants Pass WTP indicates there are no clear deficiencies or needs for improvement. This was the conclusion of a 1998 City of Grants Pass Utility Comparison Study as well as the 2015 Strategic Plan for Water and Wastewater Utility Programs. The areas where contract operations often improve on public operations include disciplines such as asset management, use of automation, and process optimization. These are all areas that have been addressed by recent initiatives and the PAVE improvement areas.

In addition, Stantec conducted a high-level survey of the operating budget for other regional WTPs to see if any metrics indicate a clear opportunity for improving the operating budget at the Grants Pass WTP. As shown in **Table 1** and **Figure 1**, the high-level operating metrics indicate that Grants Pass has a relatively low O&M cost per million gallons treated and that no operating costs are clearly disproportionate to other utilities.

**Table 1 - Operation Budget Comparison for Regional WTPs**

	Average Demand (MGD)	Annual Ops Cost	Labor	Chemicals & Ancillary	Power	Unit Cost (\$/MG)	FTEs
Joint Water Commission	30.0	\$5.1M	\$2.2M	\$1.4M	\$1.5M	\$474	18.0
Medford Water Commission WTP	10.0	\$1.9M	\$900K	\$530K	\$470K	\$520	9.0
Roseburg WTP	4.6	\$1.0M	\$600K	\$120K	\$280K	\$595	6.0
<b>Grants Pass</b>	<b>5.6</b>	<b>\$1.3M</b>	<b>\$600K</b>	<b>\$260K</b>	<b>\$450K</b>	<b>\$650</b>	<b>6.0*</b>
South Fork Water Board	9.0	\$2.5M	\$1.0M	\$790K	\$710K	\$761	9.0
Clackamas River Water WTP	7.0	\$2.0M	\$1.1M	\$300K	\$600K	\$782	10.0
Lake Oswego WTP	6.0	\$2.0M	\$900K	\$470K	\$630K	\$1,085	7.0
Ashland WTP	2.7	\$1.1M	\$570k	\$500K	\$30K	\$1,116	5.0
Willamette River WTP	5.0	\$2.5M	\$1.4M	\$750K	\$350K	\$1,465	8.0

Figure 1 – Unit Cost Comparison for Regional WTPs



Regardless of whether the potential advantages of contract operations outweigh the disadvantages or vice versa, Stantec concluded that the City could wait to make this decision later<sup>1</sup> if the Council was not ready to commit to contracted operations at this time. The City can opt to evaluate the benefits of contract operations during, or after, the construction of the project. In fact, there are clear advantages to waiting since (a) the project will be better defined and therefore risks will be reduced, (b) the schedule pressure of initiating the project will be eliminated, and (c) the City will be given the opportunity to make the decision within a more holistic context which could potentially include the operations of other utility systems (such as the distribution system and/or the wastewater system). This last point is particularly relevant given the fact that some of the City’s current WTP operators are also responsible for parts of the water distribution system. So, the DBO delivery method was eliminated from further consideration, and the City Council decided to defer the consideration of contracted operations to a later date.

During this evaluation Stantec reviewed past evaluations of plant performance and reviewed current financial metrics at the WTP. It should be noted that, based on our expectation of the future operating needs at the WTP, Stantec does not see a compelling financial or operational reason to solicit contract operations. This opinion is founded in the fact that utilities typically resort to contract operations when it doesn’t have the staff resources needed to operate

<sup>1</sup> An exception to this rule is if the City decides to proceed with DBO, the decision would need to be made now.

a facility, or if contract operations could result in significant financial benefits. Neither of these appear to be the case for the Grants Pass WTP.

### **3.2.3 Commissioning Period**

The commissioning period of the plant refers to the period of time during which the contractor operates the plant and demonstrates that it functions as required by contract. The commissioning period can be very short (e.g. one month) or can be rather long (e.g. 2+ years). Various delivery methods can be coupled with different commissioning period requirements. Stantec concluded that the appropriate length of the commissioning period could be more effectively determined at a later date. A more informed decision on this matter should be made when the technology of the future WTP becomes better understood.

## 4.0 SHORT-LISTED ALTERNATIVE PROJECT DELIVERY METHODS

With the elimination of private finance and (separate) contract operations, the shortlisted alternative project delivery methods included:

- 1) Design-Bid-Build (DBB)
- 2) Construction Manager / General Contractor (CM/GC)
- 3) Progressive Design-Build (PDB)
- 4) Lump Sum / Design-Build (LS/DB)
- 5) Design-Build-Operate (DBO)

These five options are described in detail in the following subsections, which describe the defining characteristics and some of the advantages for each respective delivery method.

### 4.1 Design-Bid-Build

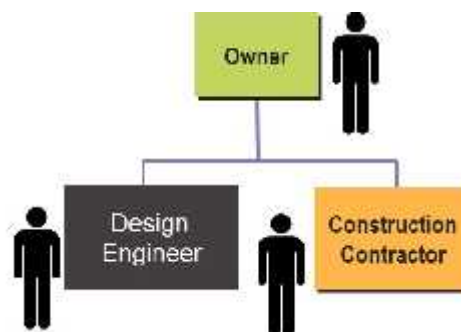
DBB (as shown in **Figure 2**) is the traditional method of delivery for most water and wastewater infrastructure projects throughout the United States. It involves separate contracts between the Owner and the engineer, and between the Owner and the construction contractor. It is a linear process where one task follows completion of another, with no overlap. One of the primary advantages of DBB is that the Owner controls completion of the design before advertising the project for bids. The Owner selects an engineer based upon professional qualifications. The engineer assists the Owner with the detailed definition of the project and may provide an Opinion of Probable Construction Cost (OPCC). Plans and specifications are completed and then a construction contractor is solicited for the project.

After the design work is complete, the construction contract documents are advertised, contractors submit bids, the work is awarded to the lowest responsible/responsive bidder, and the structure or public improvement is built. Thus, in order, the project goes through the design, bid and build phases.

This delivery method presents advantages associated with the marketplace's knowledge of the approach, competitive pricing of the contract documents, the Owner's control over the design process, the fact that (legally-speaking) it is the default delivery method, and the maturity of the market has created well-defined and understood insurance and bonding terms.

The limitations of DBB is the fact that there is an inherently adversarial contractual relationship between the Owner, the engineer and the contractor which can lead to change orders and disputes. The contractor is not inherently encouraged to provide input during the design process. The fact that the Owner must warrant the design to the contractor creates the potential for "design conservatism".

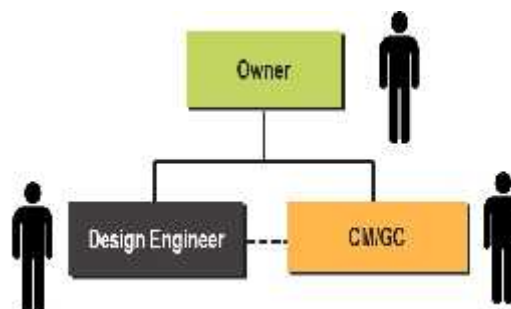
**Figure 2 – Design-Bid-Build**



## 4.2 Construction Manager / General Contractor (CM/GC)

CM/GC is a modification to the DBB delivery method that provides for a (largely) qualifications-based selection of the construction contractor early in the design phase. As shown in **Figure 3**, the Owner still holds a separate contract with the engineer and construction contractor (CM/GC). This contractual arrangement is familiar to those who are comfortable with the DBB method and it retains the engineer's trusted-advisor relationship with the Owner (which is arguably lost in design-build contracts). And just like DBB, the fact that the Owner must warrant the design to the contractor creates the potential for "design conservatism".

**Figure 3 – Construction Manager / General Contractor**



Also shown in **Figure 3** is the non-contractual relationship (dashed line) between the CM/GC and the engineer to work together during the design process (in the interest of the Owner). The CM/GC is retained through a competitive process during the early phases of design (e.g. 15%) and joins the project to provide constructability input, value management, and cost estimating while the engineer retains responsibility for the quality of the finished design. The approach supports value management and construction innovation via the early involvement of the CM/GC. It also provides the Owner with cost information during the design phase, which allows for design decisions to be more closely tied to the available budget.

Towards the end of the design process, the CM/GC submits a construction guaranteed maximum price (GMP) proposal to the Owner. The GMP usually has three parts: the cost of work, the fee, and a contingency. The fee includes profit and overhead (typically as a percent of project cost). The formula for this fee is often "locked in" as part of the CM/GC's original proposal, providing certainty for one portion of the total project cost. There are several methods for ensuring that the GMP proposal is a fair price to the Owner. One common tactic is for both the engineer and the CM/GC to prepare an independent OPCC at defined design milestones. The engineer and the CM/GC then reconcile any differences between the estimates. If pricing issues arise, the parties work with the Owner to seek a design solution. If there still an impasse or the Owner feels that the proposed GMP price isn't fair, there remains an "off ramp" to bid the final design to the contracting community at large (consistent with the DBB approach). During the construction phase, the contractor can be held to certain requirements regarding negotiated self-performance and open book bidding procedures for subcontractors. Another strategy for minimizing final project costs is to give the CM/GC financial incentives for completing the project under budget. Those financial incentives need to strike a balance between the CM/GC's lost profits and maximizing the savings to the Owner.

### 4.3 Progressive Design Build (PDB)

The PDB method is closely related to the CM/GC method with one critical difference that is the hallmark of design-build contracts: there is a **single contract between the Owner and the design-builder** (see **Figure 4**). Design-build contracts bind the contractor and the engineer to guarantees of design, construction quality, and performance, all of which improves the Owner's risk posture (since the design-builder is in the best position to manage those risks). The single point of responsibility can effectively reduce the number of change orders and disputes and, depending on the format of the design-build contract, may improve cost and schedule control. The single contract also means that the engineer and contractor have an inherent incentive to work together during the design process (to the benefit of both themselves and the Owner). The single contract also means that the Owner is not able to independently select an engineer and a contractor (in the event that the two most qualified firms aren't on the same team).

**Figure 4 – Progressive Design-Build**



There are a number of similarities to the CM/GC approach. The contractor selection process is (largely) qualifications-based and is completed early in the design phase. The approach encourages constructability input, value management and construction innovation through the early involvement of the contractor. The PDB approach also develops the design in collaboration with the Owner and with cost input from the contractor. Much like CM/GC, the GMP is set at an advanced design stage (between 70 percent to as much as 100 percent), has the same cost/fee/contingency components (as established as part of the design builder's proposal), and similar methods are used to ensure that the GMP proposal is fair. Until the GMP is signed, the Owner maintains as much control over the design as with DBB and CM/GC. Again, the Owner can make more informed design decisions (as compared to DBB) when pricing information is provided by the contractor during the design phase.

Because of the fact that the engineer and contractor are coordinated and equally interested in accelerating the schedule in order to control costs, the Owner sometimes finds it to be difficult to keep up with the pace of decision-making during the design phase.

### 4.4 Lump Sum / Design Build (LS/DB)

LS/DB also selects the engineer and the contractor as a single entity, however, unlike PDB, the construction price is proposed from the outset, and therefore price has a larger role in the selection process. The solicitation documents include a preliminary design (e.g. 30 percent); the level of design depending on how prescriptive the Owner chooses to be. Based on the solicitation document information, the cost for both design and construction services is developed by design-build proposers. This approach creates a competitive bidding environment; however, the price can include significant contingency given the risks inherent to pricing an unfinished design.

This approach shares the PDB advantage of having a single point of responsibility for both design and construction quality. There can also be schedule advantages to LS/DB since certain aspects of construction can commence even while the design is in early phases (which can be done since the construction contract has already been executed).

One disadvantage to LS/DB is the amount of pre-planning and project requirement foresight that needs to be clearly communicated in the solicitation documents. The risk is material; to the extent that solicitation documents are

incomplete, the Owner relinquishes control to the design-builder. The result is that the solicitation documents can be expensive to develop, particularly for a complex project such as a WTP. During the development of these solicitation documents, the Owner needs to make difficult decisions between design specifications and design freedom. Once the contract has been signed, the Owner has a substantially reduced role (and very little control aside from enforcing contractual requirements) during the latter phases of design.

The preparation of LS/DB proposals is also quite labor intensive for vendors, which often needs to be addressed by offering proposal stipends to short-listed proposers.

### **4.5 Design-Build-Operate (DBO)**

Under the DBO approach, the contractor, engineer, and operator are one contractual entity. The procurement process, advantages and disadvantages for DBO are similar to LS/DB with the notable exceptions/additions that follow.

The operations contract is usually 10 years or longer (see Section 3.2.3 regarding shorter operating periods which constitute commissioning periods) and often has options to extend. The DBO entity is responsible for integrating their collective expertise in design, construction, operation and maintenance to develop the facility in accordance with performance criteria established by the Owner. The DBO entity guarantees the performance of the full-service contract and therefore has the incentive to balance cost efficiencies and long-term O&M costs, and to optimize life-cycle costs. This includes the quality/durability of construction materials, the cost of operating the WTP (e.g. staffing, energy and chemicals), and the approach to asset management and maintenance.

Given the significant transfer of risk and the long-term nature of the contract (which means there are more unknowns associated with the project), the Owner's cost may include more for risk than in contracts of shorter duration.

Since the Owner is not responsible for operating the WTP, the design requirements in the solicitation documents are generally less prescriptive than with LS/DB. As a result, DBO contracts tend to be more performance-based, which gives DBO entity more freedom to innovate or try unproven technologies (at their own risk). As a result, the solicitation documents can require less preparation and planning than those for LS/DB. That being said, the proposal documents still require significant effort, which often results in the need for proposal stipends.

## 5.0 ANALYSIS

As described in Section 3.0, after the short-list of delivery methods was completed, the selection criteria were finalized and then weighted, and then the five alternatives were scored within the context of those criteria.

### 5.1 Selection Criteria

The following project delivery method selection criteria were identified and defined in a manner that best reflects the values of Grants Pass and the objectives of the WTP Project.

#### CRITERIA 1 – PROJECT DELIVERY METHOD FAMILIARITY

This criterion assesses the familiarity of City staff and the contracting community with the project delivery method. Familiarity will affect (1) City staff's efficacy in administering the WTP Project and (2) the level of interest and qualifications in the contracting community. The familiarity of City Council and citizens of Grant Pass will also have an impact on public perception of the WTP Project.

#### CRITERIA 2 – ABILITY TO MAKE A QUALIFICATION-BASED SELECTION OF THE CONTRACTOR

This assesses the degree to which the criteria for contractor selection are legally allowed to focus on demonstrated technical success and safety (as opposed to selecting the "lowest responsible bidder").

#### CRITERIA 3 – OWNER INPUT DURING DESIGN

This criterion assesses the Owner's role during the design phase within these specific areas:

- A. **General project objectives** – Degree to which the method promotes the City's input during design regarding technology and other options. Such involvement is more likely to yield a project that meets the City's needs and may result in a reduced number of change orders during construction.
- B. **Weighing quality vs. costs** – Does the method empower the City to participate in detailed decision-making regarding project quality vs. costs. Such involvement is more likely to yield a project that meets the City's needs and allow the City to make strategic decisions to stay within a target budget.
- C. **O&M staff input during design** – Degree to which the method promotes the involvement of O&M staff during the design phase in order to build a WTP that meets the operators' needs.
- D. **Construction safety program** – Does the method allow the City to oversee the Contractor's safety program.
- E. **Sequencing** – Does the method enable coordination between Contractor and City in order to keep the City's water utility operational during construction.

#### CRITERIA 4 – CONTRACTOR INPUT DURING DESIGN

This criterion assesses whether the contractor is engaged in the design phase to the benefit of these specific considerations:

- A. **Constructability and Innovations** – Does the process promote feedback from the contractor during design regarding project constructability and Value Engineering (VE) concepts.
- B. **Cost estimates and schedule information** – Degree to which the process promotes the involvement of the contractor as a means to inform the City regarding the implications of design decisions on cost and schedule.

#### CRITERIA 5 - COST

This criterion assesses various cost considerations (with the understanding that no single delivery method was identified as being the low-price alternative):

- A. **Cost information** – Degree to which the process provides the City with early cost information.
- B. **Innovation and value engineering** – Degree to which the contractual relationships promote innovation and value engineering to reduce costs and prolong project life.
- C. **Competitive bidding environment** – Does the process promote a competitive bidding environment that is likely to minimize project costs to the City.
- D. **Contingency pricing** – Does the bidding process minimize the amount of risk and contingency pricing that vendors put into their prices.
- E. **Life cycle costs** – Does the contract vehicle incentivize the vendors to focus on the reduction of lifecycle costs.

#### CRITERIA 6 – FLEXIBILITY IN RISK ALLOCATION

This criterion evaluates whether contract vehicle enables the allocation of risk to the party that is best able to manage the risk (performance design, warranty, permit compliance, unforeseen conditions).

#### CRITERIA 7 – POTENTIAL SCHEDULE EFFICIENCIES

This criterion assesses whether the process allows for overlap of project phasing in order to gain schedule efficiencies.

## 5.2 Criteria Weighting and Scores

Following the definition of the selection criteria (and their respective sub-criteria), a relative weight was assigned to each sub-criterion such that the sum of all weights equal one hundred percent. The weights were developed through a consensus process between the Stantec team and the Grant Pass project team. The weights are presented in the second column of **Table 2**.

In order to maintain the integrity of the assigned weights, a specific scoring methodology was developed for use by the scoring team (again a combination of Stantec consultants and the Grants Pass project team). Each sub-criterion was assigned a score from 1 to 10. The scoring was intended to reflect the relative difference between delivery methods, not the importance of the individual sub-criterion (which is achieved through the weight of each sub-criterion). As such, in the event that all delivery methods perform similarly for a criterion, they are all assigned a score of “5”. Conversely, if there is a dramatic difference between two delivery methods, they are scored at either extreme (i.e., 1 and 10). By extension, moderate differences between methods were shown by spreads of a few points.

**Table 2** shows a summary of the criteria described in Section 5.1, the assigned weight for each criterion (and sub-criterion), and the consensus score given to each delivery method.

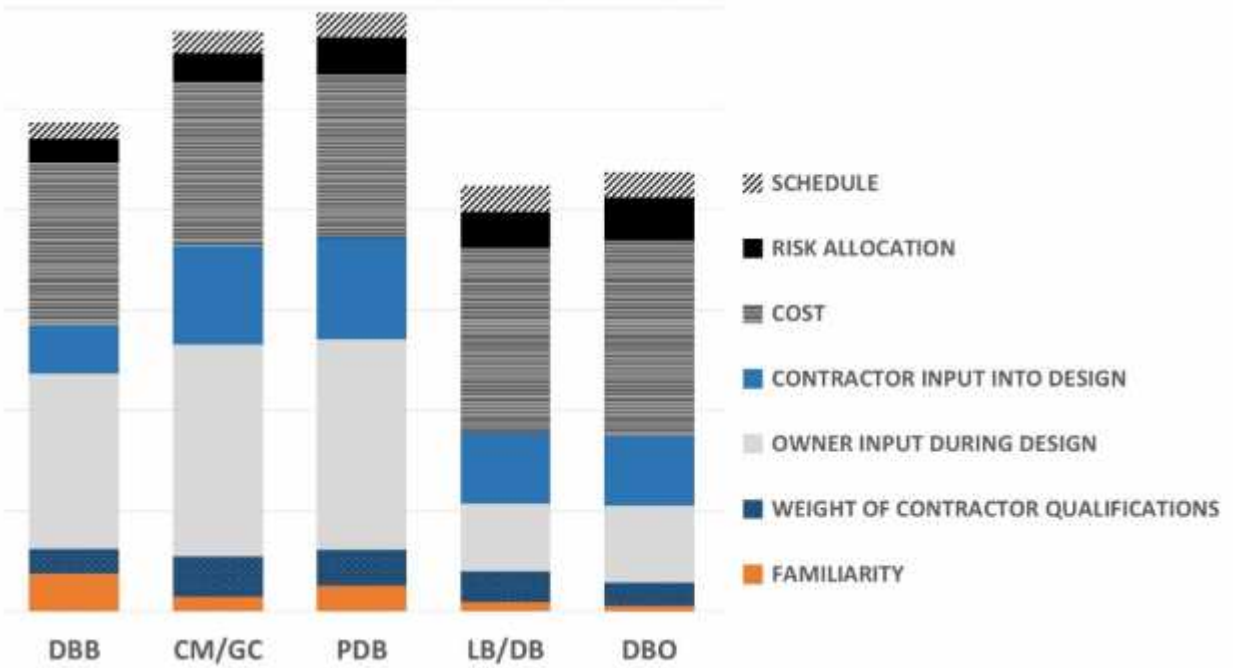
**Table 2** also shows the total raw (non-weighted) scores, the total weighted scores and the respective rank of each delivery method (showing PDB as the highest ranked option). **Figure 5** provides a graphical depiction of the weighted scores for each delivery option (by criterion).

**Table 2 – Selection Criteria Weights, Scores, and Results**

CRITERIA	Criteria Weight	SCORES BY DELIVERY METHOD (1 is lowest, 10 is highest)				
		DBB	CM/GC	PDB	LB/DB	DBO
<b>1) PROJECT DELIVERY METHOD FAMILIARITY</b>	<b>3.8%</b>	<b>10.0</b>	<b>4.0</b>	<b>6.8</b>	<b>2.6</b>	<b>1.6</b>
a. Project delivery method familiarity	3.8%	10.0	4.0	6.8	2.6	1.6
<b>2) ABILITY TO MAKE A QUALIFICATION-BASED SELECTION OF THE CONTRACTOR</b>	<b>6.0%</b>	<b>4.0</b>	<b>6.6</b>	<b>6.0</b>	<b>5.0</b>	<b>3.8</b>
a. Ability to make a qualification-based selection of the Contractor	6.0%	4.0	6.6	6.0	5.0	3.8
<b>3) OWNER INPUT DURING DESIGN</b>	<b>29.7%</b>	<b>28.4</b>	<b>34.0</b>	<b>33.8</b>	<b>13.2</b>	<b>14.6</b>
a. General project objectives	8.0%	7.2	7.2	7.0	2.2	2.0
b. Weighing quality vs. cost	7.0%	5.8	7.8	8.0	1.4	1.4
c. O&M staff input during design	6.2%	7.2	7.2	7.0	1.0	2.4
d. Construction safety program	2.4%	5.0	5.0	5.0	5.0	5.0
e. Sequencing	6.2%	3.2	6.8	6.8	3.6	3.8
<b>4) CONTRACTOR INPUT INTO DESIGN</b>	<b>15.4%</b>	<b>6.2</b>	<b>12.8</b>	<b>13.2</b>	<b>9.2</b>	<b>9.2</b>
a. Constructability and innovations	7.0%	2.8	6.4	6.6	5.0	5.0
b. Cost estimates and schedule information	8.4%	3.4	6.4	6.6	4.2	4.2
<b>5) COST</b>	<b>34.1%</b>	<b>23.8</b>	<b>24.4</b>	<b>24.0</b>	<b>26.0</b>	<b>27.6</b>
a. Cost information	7.2%	2.8	4.8	4.4	6.4	6.4
b. Innovation and value engineering	7.0%	3.6	5.8	6.0	6.0	6.2
c. Competitive bidding environment	8.0%	7.2	3.4	3.6	6.6	6.2
d. Contingency pricing	5.6%	6.2	6.4	6.0	3.0	1.2
e. Life Cycle costs	6.4%	4.0	4.0	4.0	4.0	7.6
<b>6) RISK ALLOCATION</b>	<b>6.6%</b>	<b>3.4</b>	<b>4.2</b>	<b>5.6</b>	<b>5.6</b>	<b>6.4</b>
a. Flexibility in risk allocation	6.6%	3.4	4.2	5.6	5.6	6.4
<b>7) SCHEDULE</b>	<b>4.4%</b>	<b>3.8</b>	<b>5.0</b>	<b>5.6</b>	<b>5.8</b>	<b>5.8</b>
a. Potential scheduling efficiencies	4.4%	3.8	5.0	5.6	5.8	5.8

	DBB	CM/GC	PDB	LB/DB	DBO
<b>Non-Weighted Totals:</b>	<b>79.60</b>	<b>91.00</b>	<b>95.00</b>	<b>67.40</b>	<b>69.00</b>
<b>Weighted Totals:</b>	<b>4.86</b>	<b>5.77</b>	<b>5.95</b>	<b>4.23</b>	<b>4.37</b>
<b>Respective Rank</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>4</b>

Figure 5 – Weighted Selection Criteria Score Results



## 6.0 RECOMMENDATION

Based on the evaluation described above and with concurrence by the City Council during the May 30, 2018 workshop, Stantec recommends that the City use PDB as the project delivery method to complete the WTP Project. The PDB delivery approach is most aligned with the needs of the project and the objectives of the City.

The most notable advantages of PDB for the City include:

- 1) The single point of responsibility through a design-build contract, which can be very valuable during a project as complex as a WTP;
- 2) The ability to allocate risk to the party that can best manage the risk;
- 3) The progressive development of scope and budget which will reduce contingency pricing and provide early cost information;
- 4) The inherent involvement of the contractor during the design phase, which will yield value engineering insight and constructability advice; and
- 5) The City staff's familiarity with the process due to the fact that staff is currently delivering a major capital project (WWTP Upgrade) with PDB.

As next steps, the City should (1) develop the "finding of fact" as required by ORS 279, and (2) begin to formulate the specific procurement strategy and sequence. Based on the schedule of the WTP, we recommend that the Finding of Fact be completed by September with targeted City Council approval by October.


# **Appendix A - Introduction to Alternative Project Delivery**

City Council Presentation – March 26, 2018



## Subject, Summary and Goals

- Provide overview of Task Order No.2 Progress and anticipated next steps
  - TO No.2 will assist Council in the selection of a delivery method for the new water treatment plant project.
- Relationship to Council Goals:
  - Maintain, Operate and Expand our infrastructure to Meet Community Needs:
    - Ensure water infrastructure needs are met: Build a new water treatment plant (PAVE) \*\*\*



## AGENDA

- Purpose of Task order No. 2 - Project Delivery Method
- Traditional
  1. Design Bid Build (DBB)
- Alternatives:
  2. Construction Manager/General Contractor (CM/GC)
  3. Progressive Design Build (PDB)
  4. Lump-Sum Design-Build (LSDB)
- Plant Operations
- Alternative:
  5. Design Build Operate (DBO)
- Private Financing
- Choosing an Alternative
  - Selection Criteria
  - Selection Process

3

### Traditional Delivery

1. Design-Bid-Build (DBB)

## Design Bid Build (DBB) Structure

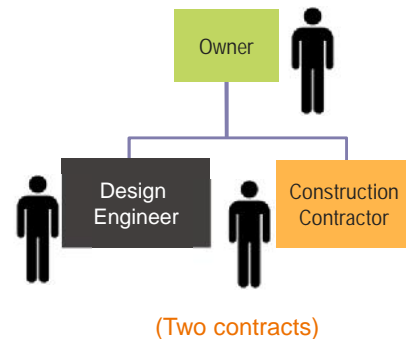
**Overview:** Traditional consultant designs; low bid construction contract

**Contract Structure:** Separate design contract and construction contract

**Bid Document Requirements:** Contractor must build the facility as specified in the design documents

**Selection Basis:** Low bid

**City Involvement During Design:** High level of involvement



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## DBB Benefits

- Most understood
  - ✓ Owner comfort zone
  - ✓ Default legal pathway
  - ✓ Insurance and bonding well defined
  - ✓ Established procurement processes
- Owner **controls** the design
- Familiar competitive bidding process



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## DBB limitations

- Inherently **adversarial** contractual interests between owner, engineer, and contractor
  - ✓ Can lead to change orders (Initial low price may not be the final price)
  - ✓ Can lead to disputes
  - ✓ Can affect schedule and quality
- **No input** from contractor during design
  - ✓ Constructability considerations can impact cost and schedule
  - ✓ Lower potential for innovation
  - ✓ Owner warrants design to contractor (**performance risk**)
  - ✓ ... therefore potential for “design conservatism”
- Selection focused on low price (not qualifications) once pre-qualification requirements are met



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## Alternative Project Delivery

2. Construction Manger / General Contractor (CM/GC)
3. Progressive Design Build (PDB)
4. Lump-Sum / Design-Build (LS/DB)

## Oregon Legal Framework

- ORS 279 allows alternatives to “low-bid” requirement
  - Alternatives include all options being discussed today
- ORS 279 requires public hearing / approval of findings by Local Contract Review Board.

A “finding of fact” must demonstrate that the alternative:

- ... is unlikely to encourage favoritism or substantially diminish competition
- ... is reasonably expected to result in:
  - ... substantial cost savings; and
  - ... substantial benefits to the contracting agency

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## CM/GC Structure

**Overview:** Owner & engineer develop a scope and budget with a CM/GC through a collaborative design process, who then subs most work out using a competitive bid approach

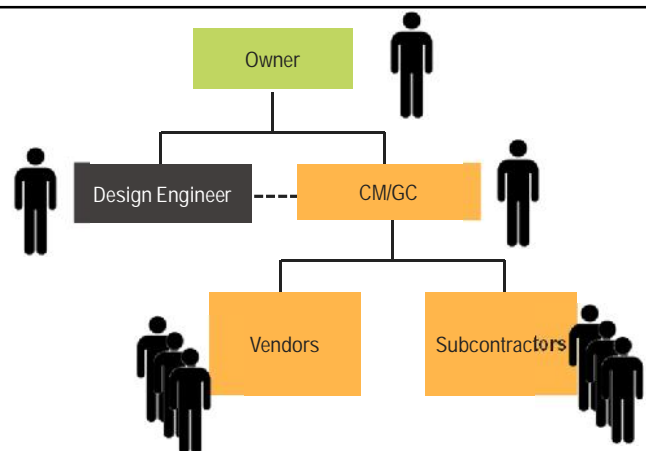
**Contract Structure:** Separate design contract & CM/GC contract

- CM/GC agrees to Guaranteed Maximum Price (GMP) prior to construction (at-risk)
  - Work is competitively bid to subcontractors/vendors or self-performed

**Bid Document Requirements:** Scope, schedule, contractual terms

**Selection Basis:** Qualifications with some price components

**City Involvement During Design:** Design phase is a collaborative process between owner, engineer and contractor which includes pricing and value engineering.



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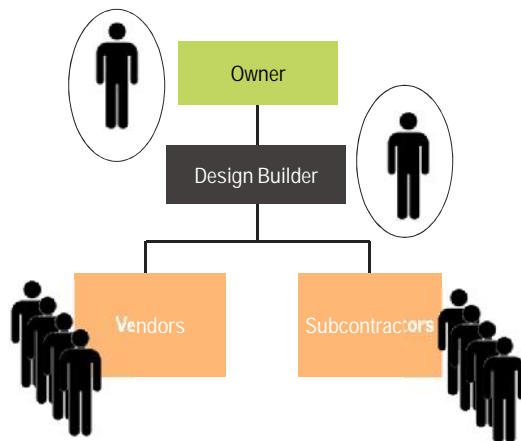
## CM/GC Attributes (Compared to DBB)



- Pros**
  - Enhanced engineer and contractor **collaboration**
  - **Owner control** and design input
    - ✓ Maintains trusted-advisor design engineer **relationship**
  - Potential for **cost containment** (and contingency reduction)
  - **Two contracts**
    - Familiar format for Owner
    - 2 contracts: parties could still have different agendas
- Cons**
  - Owner warrants design to CM/GC (**performance risk**)
  - Increased owner time **commitment** during design
  - Potential that parties can't agree to a mutually acceptable GMP

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## Design-Build Structure



### Two Models:

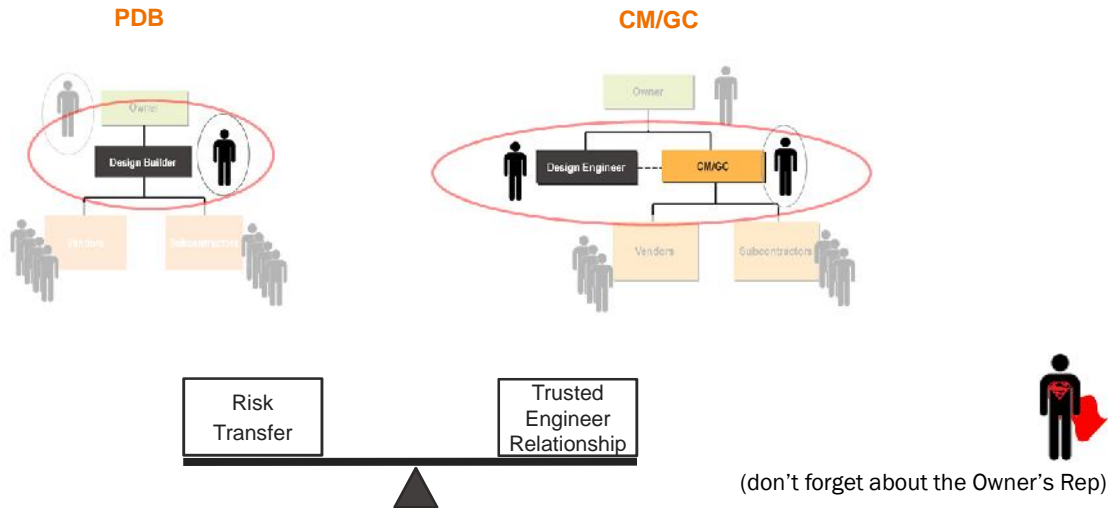
- 3. Progressive Design-Build (PDB)
- 4. Lump-Sum / Design-Build (LS/DB)

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## Progressive Design-Build.... What is the "Progressive"?

Design is **progressed** in a collaborative manner with owner input into project scope, project quality, cost and schedule.

Sounds a lot like CM/GC?... But there is only one contract:



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## PDB Structure

**Overview:** Owner and PDB develop the design and budget through collaborative process

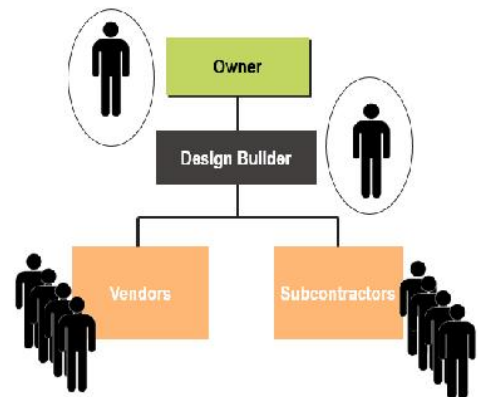
**Contract Structure:** Single design & construction contract

- PDB agrees to GMP prior to construction (at-risk)
  - Work can be competitively bid to subcontractors/vendors or self-performed

**Bid Document Requirements:** Scope, schedule, contractual terms

**Selection Basis:** Qualifications with some price components

**City Involvement During Design:** Design phase is a collaborative process between owner, engineer and contractor which includes pricing and value engineering



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## PDB Attributes

- Pros**
- Qualification and cost-based selection
  - Single point of accountability for design and construction
    - Improved owner risk posture
    - Performance guarantees
    - Potential to reduce change orders, and disputes
  - Inherent engineer and contractor **collaboration**
  - Retain **owner control** and design input
  - Potential for cost **containment** (and contingency reduction)

- Cons**
- Traditional owner design engineer **relationship** diminished
  - Requires **rapid and earlier decision-making** by owner regarding project scope and quality, cost and schedule.
  - Significant owner time **commitment**
  - Owner can't independently select engineer and contractor

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## Lump-Sum / Design-Build Structure

**Overview:** Design/Builder responsible for delivering the project subject to the specifications defined by the DB contract

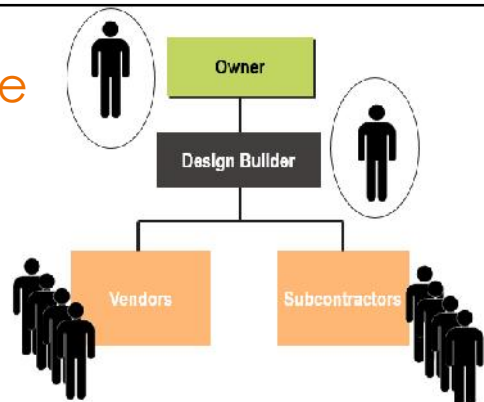
**Contract Structure:** Single design & construction contract

- Design/Builder works under lump sum contract and manages all subcontractors/vendors

**Bid Document Requirements:** Design and performance requirements

**Selection Basis:** Best value: lump sum price, scope and qualifications

**City Involvement During Design:** Limited



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## Lump-Sum / Design-Build Attributes

- Pros**
  - Contractor qualifications considered in selection
  - Single point of **accountability** for design and construction
    - Enhanced owner risk posture
    - Performance guarantees
    - Potential to reduce change orders
    - Inherent engineer and contractor **collaboration** (innovation potential too)
  - Early **cost** information
- Cons**
  - Costly and lengthy **procurement** period
    - Procurement documents have to ensure quality while allowing design freedom
  - DB bid includes contingency for risk that is inherent to pricing unfinished design
  - Limited **owner control** and design input
  - Traditional owner design engineer **relationship** diminished
  - A proposal stipend helps to attract interest and quality proposals

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## Ensuring Cost Competitiveness:

### DBB

- Engineering contract awarded based on qualifications
- Construction bid is lowest responsible bidder

### LS/DB

- Contract is awarded based on price, scope, and qualifications

### CM/GC and PDB

**CM/GC only:** Engineering contract awarded based on qualifications

#### Both:

- Contract is awarded based on qualifications and some price components
- Construction:
  - ✓ Owners pay no more than Guaranteed Maximum Price (GMP)
  - ✓ Savings may be shared if costs come in under GMP
  - ✓ Sub-contracts can be awarded based on price
  - ✓ “Off-ramp” available to bid out final design to other contractors

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## Project Delivery Operations Alternatives

## Operation Options

### City operations

- ... following facility start-up (3 months)
- ... following extended commissioning (1 - 2 years)

### Private operations

- WTP completion followed by private contract operations
- DBO

## Operations

### **Current operations appear to be efficient**

- According to prior reports
- Relative to neighboring plants
- Anticipated increase in asset, operational, & maintenance management, regardless of the new WTP

### **Additional staff, training, and expertise may be needed for the new WTP:**

- Different processes (treatment technologies)
- Instrumentation

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## Privatized Operations

### **PROS**

- Guaranteed costs for defined scope
- Transfer of risks
- Responsible for hiring and retaining qualified / certified operators (risk transfer)
- Reduction in employee liabilities (PERS/Workers Comp/Etc)
- Potentially more efficient use of labor (automation)

### **CONS**

- City will pay for inherent risks and contingencies
- Long term commitment
- Profit is driving motivator (service levels may fall)
- Risks to City if the Operating Company experiences financial struggles
- City has limited influence over how the WTP is operated

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## Alternative Project Delivery

### 5. Design Build Operate (DBO)

## DBO Structure

**Overview:** Design/Build/Operator responsible for all phases of the project, subject to the performance requirements defined by the DBO contract. Costs & regulatory compliance guaranteed with annual operating cost adjustments. City retains ownership, permits, and rate setting.

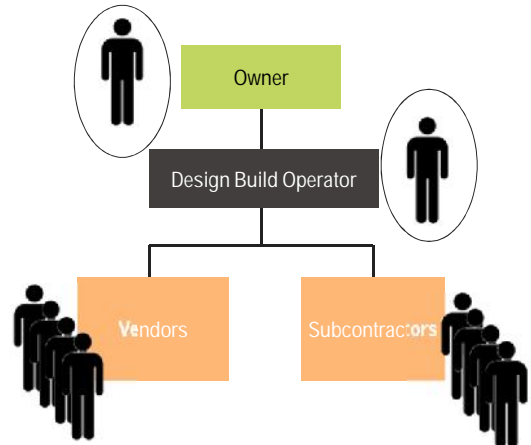
**Contract Structure:** Owner contracts with a single firm for design, construction and operations

- Design/Builder works under lump sum contract and manages all subcontractors/vendors
- Operator provides long-term operations under a pre-determined pricing agreement

**Solicitation Requirements:** Focused largely on WTP performance requirements

**Selection Basis:** Best value: price, scope, and qualifications

**City Involvement During Design:** Limited



## DBO Attributes

- Pros**
  - Contractor qualifications balanced with costs
  - Single point of **accountability** for design, construction and operations
    - (same as LS/DB) +
    - Inherent lifecycle focus; lower lifecycle risks for owner
  - Inherent engineer, contractor and operator **collaboration** (increases in innovation)
  - Early **cost** information
    - Guaranteed operation costs (including variable costs)
- Cons**
  - Limited **owner control** and design input
  - Traditional owner design engineer **relationship** diminished
  - May over-pay for risk transfer
  - WTP technology may be less desirable for City
  - Limited pool of qualified / interested firms
  - A proposal stipend will likely be needed to attract interest and quality proposals

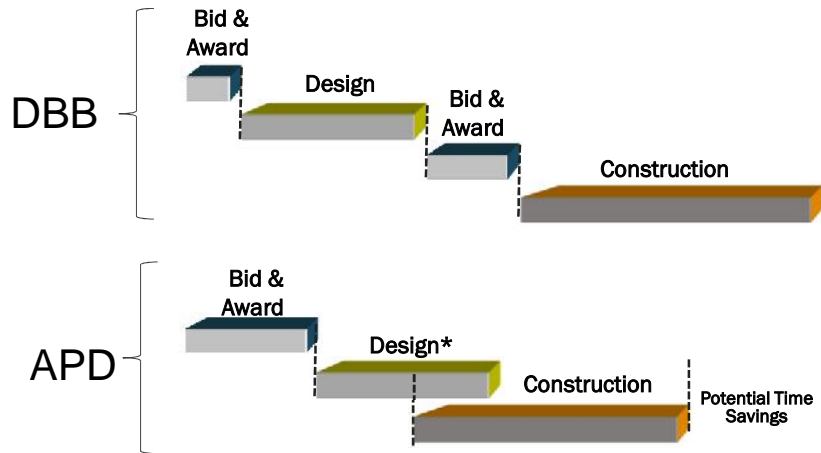
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## Alternative Project Delivery Recap

## Schedule Benefits

Overlapping Activities May Reduce Total Project Time

(potential for early construction activities during design phase)



\* The design phase may be shortest for DB since owner involvement is limited

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## Quick Reference Matrix

Project Attribute	DBB	CM/GC	PDB	LS/DB	DBO
Procurement Selection	Low bidder	Qualifications and some cost components	Qualifications and some cost components	Best value; price, proposal, and qualifications	Best value; price, proposal, and qualifications
Contracts	Design + Construction	Design + Preconstruction/Construction	Design build	Design build	Design build (+ operate)
Contractor involvement during design	None	Yes + significant owner involvement	Yes + significant owner involvement	Yes, + <b>limited</b> owner involvement	Yes, + <b>very limited</b> owner involvement
Design Risk	Owner	Owner	Design builder	Design builder	Design builder
Project Price	Lump Sum	GMP	GMP	Lump Sum	Lump Sum
Schedule	Sequential, but known process	Potential for efficiencies	Potential for efficiencies	Potential for efficiencies	Potential for efficiencies

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## Partial list of Treatment Plants in Pacific NW

Delivery Method	Utility	Status	Year
DBB	Lake Oswego – Tigard WTP	Built	2016
CM/GC	North Clackamas County Water Commission WTP	Built	2005
	Bend WTP	Built	2016
	Newport WTP	Built	2004
	Green River WTP	Built	2015
	Willamette Water Supply Program WTP	Current	2018
	Portland WTP	Current	2018
LS/DB + O	Willamette River WTP	Built	2002
PDB	Grants Pass WWTP	Current	2018
	Klamath Falls WWTP	Current	2018
DBO	Wilsonville WWTP	Built	2012
	Mountain Home AFB WTP	Future	2018
	Tolt WTP	Built	2001

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## Private Financing (Public Private Partnerships)

- Design Build Operate Finance (DBOF)
- Design Build Own Operate Transfer (DBOOT)
- Concession / Privatization

## Private Financing

Stantec supports the previous conclusion made by the PAVE Committee to eliminate from consideration the use of private financing based on the fact that private sector financing costs are more than double the City's cost for tax-exempt debt.

This will allow staff to focus on:

- DBB
- CM/GC
- PDB
- LS/DB
- DBO

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## Selection Criteria and Process

## Basic Pass/Fail Criteria

Category	Description	Grants Pass WTP
Legality of delivery method	Grants Pass should only proceed with project delivery methods that are clearly enabled by existing legislation.	All delivery methods being discussed are allowed by Oregon state law
Size of project	Some small projects (less than \$10M for example), aren't worth the extra procurement effort & costs of some APDs.	Water Treatment Plant is sufficiently large to justify strategic advanced planning

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## Selection Criteria

ELEMENT	DESCRIPTION
<b>QUALS-BASED SELECTION OF CONTRACTOR</b>	
Quality of past performance	Procurement process allows for the selection of a contractor with a demonstrated history of quality work
Safety Record from past performance	Procurement process allows for the selection of a contractor with a demonstrated history of safe work environments
<b>OWNER INPUT DURING DESIGN</b>	
General project objectives	Ability for the City to provide input regarding the treatment technology and during the development and finalization of design. May result in a reduced number of change orders during construction.
Weighing quality vs. cost	Ability to participate in detailed value decision (quality vs. costs) in order to manage the budget and achieve the Project objectives
O&M staff input during design	Ability to involve City's existing staff in the design phase in order to obtain a WTP that is designed to meet the needs of operators.
Construction safety program	City's ability to oversee and/or influence the Contractor's safety program
Sequencing	Ability to coordinate with Contractor to maintain water supply over the course of the project
<b>CONTRACTOR INPUT INTO DESIGN</b>	
Constructability and innovations	More feedback regarding the constructability of proposed innovation and Value Engineering (VE) concepts
Cost estimates and schedule	Better information regarding cost estimates and schedule estimates. Better input regarding phasing.
<b>COST</b>	
Cost information	Procurement process results in early cost certainty
Innovation and value engineering	Contractual relationships that promote innovation and value engineering to reduce costs
Competitive bidding environment	Creation of a competitive bidding environment that results in fair pricing for the City
Contingency pricing	Minimizes the the amount of risk and contingency pricing that vendors put in their price
Life Cycle costs	Contractual incentives to minimize lifecycle costs
<b>RISK ALLOCATION</b>	
Flexibility in risk allocation	Contracts that enables the allocation of risk to the party that is best able to manage the risk (performance design, warranty, permit compliance, unforeseen conditions, operations)
<b>SCHEDULE</b>	
Potential scheduling efficiencies	Project delivery allows for overlap of project phasing in order to gain schedule efficiencies
Permitting requirements	Project sequencing is compatible with applicable environmental requirements

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## Selection Process

1. Receive City Council feedback regarding the weight of the selected criteria
2. Evaluate the alternatives within the context of the weighted criteria
3. Present recommended alternative to City Council

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## Call to Action

### **Call To Action Schedule: Future workshop presentations**

- **04/16/2018** - In-depth discussion of public vs. private operations
- **05/14/2018** - Water Treatment Plant Site Evaluation
- **05/21/2018** - Water Treatment Plant Delivery Method

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# **Appendix B – Contract Operations Workshop**

City Council Presentation – April 23, 2018



## Subject, Summary and Goals

- Provide overview of Progress on Task Order No.2 and detailed Contract Operations information
  - TO No.2 will assist Council in the selection of a delivery method for the new water treatment plant project – up-to and including contract operations
- Relationship to Council Goals:
  - Maintain, Operate and Expand our infrastructure to Meet Community Needs:
    - Ensure water infrastructure needs are met: Build a new water treatment plant (PAVE) \*\*\*

## Brief Update on Task Order No. 2 Progress

- Workshop #1 covered basic information on all forms of delivery for new water treatment plant
  - Conventional delivery
  - Alternate Delivery (DB, PDB, CM/GC, DBO)
- Introduced discussion of Contracted Operations
  - Short term (0-6 month)
  - Extended Commissioning (1-2 years)
- Design Build Operate
- Today's focus will be on Contract Operations

3



## AGENDA

1. Purpose of Task Order No. 2 - Project Delivery Method
2. Operations Options
3. Contract Operations - Lessons Learned
4. Survey of Regional O&M Costs
5. Next Steps

4

## Operations Options

1. Operations options
2. Pros and cons of contract operations
3. Current operations

## Operation Options

### City operations

- ... following facility start-up (~3 months)
- ... following extended commissioning (~1 - 2 years)

### Contract operations

- WTP completion followed by contract operations

DBB  
PDB  
LS/DB  
CM/GC

## Considering Contract Operations

### PROS

- **Guaranteed costs**
  - ... for defined scope
- **Transfer of risks**
  - Hiring and retaining qualified / certified operators
  - Managing operations within available budget
- **Potential Cost Reductions**
  - More use of automation
  - Potential access to cheaper chemicals
  - Reduction in employee benefit package (PERS/paid leave/insurance/etc.)

### CONS

- Long-term **commitment**
- Potential **drop in service levels**
  - Due to profit seeking
  - In the event that the Operating Company experiences financial struggles
  - City has limited influence over how the WTP is operated
- **Cost Increases**
  - City will pay for inherent risks and contingencies
- **Complex** procurement process to define contract terms

7

## Current WTP Operations at Grants Pass

### Existing operations at the Water Treatment Plan appear to be efficient

1. According to prior reports
  - o 1998 – City of Grants Pass Utility Comparison Study
  - o 2015 – Strategic Plan for Water and Wastewater Utility Programs
2. Relative to neighboring plants (see summary)
3. Water Treatment staffing structure covers distribution and WTP functions
  - o Pump stations and reservoirs are operated and maintained by WTP Staff
  - o May lose efficiency if WTP is contracted separately

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## Current WTP Operations at Grants Pass

### Existing operations appear to be efficient (cont.)

4. Successful increase in asset, operational efficiency, & maintenance management
  - Asset Management/Computerized Maintenance Management System
    - ✓ Purchased in FY18 being rolled out April/May 2018
    - ✓ PAVE Improvement area #1 & #3
  - Extensive use of automation and advance process control in WTP SCADA
    - ✓ allows reduced staffing due to complex functions
    - ✓ PAVE Improvement area #2
  - Treatment Plant optimization
    - ✓ Plant chemical dosages monitored minute by minute to ensure optimum plant dosages are maintained
    - ✓ PAVE improvement area #7

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## Future Operations

### Additional staff, training/re-training, and expertise may be needed for the new WTP in the event that:

- Different processes (treatment technologies) are employed (see TO #6)
  - ozonation
  - membranes
  - ballasted flocculation
  - mechanical dewatering
- Instrumentation and technology is upgraded
- Attracting and retaining mid-level to upper-level talent becomes a challenge

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# Lessons Learned from Pacific Northwest Utilities

## Example Contract Operation Municipalities in the NW

Utility	Notes
Ontario, Oregon (WTP / WWTP)	Public works department, engineering, water and wastewater departments were contracted out (2014).
<b>Brookings, Oregon (WTP / WWTP)</b>	Recent decision to move to contract operations. Proposed cost savings appear to be biggest driver.
<b><i>Wilsonville, Oregon (WTP / WWTP)</i></b>	Greenfield WTP was DB, with O selected later (2001). Subsequently, a major improvement project at WWTP led City to go full DBO.
Gresham, Oregon (WWTP)	Contracted out in 2005. City selected different contractor under new 10-year contract last month
Vancouver, Washington (WWTP)	Contracted since 1978. City was facing fines for discharge limits and sewer connection ban.
<b><i>Canby, Oregon (WTP)</i></b>	Decision made to contract ops in 2006.
Seattle Public Utilities (WTP)	DBO project (2001-Tolt). Was City's first major treatment facility.

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## Lessons Learned from Contract Operation Municipalities In the NW (cont.)

### Questions:

- 1) What were the original drivers for contract operations?
- 2) What were expected cost savings at the time?
- 3) What were actual cost savings realized?
- 4) What were the long-term impacts to customer relations?

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## Canby Utility

	Contact	Dan Murphy – General Manager
1.	What were the original drivers for Contract Operations?	Water treatment since 2006 – felt that would be better served by larger entity instead of keeping staff in house. Veolia
2.	What were the expected cost savings at the time?	1.0M/year
3.	What were the actual cost savings realized?	Feel that it is, but not
4.	Were there any long term impacts to customer relations?	Very good with arrangement – Veolia was well positioned to respond
5.	Any other comments you can make regarding your change to Contract Operations?	Don't foresee making any changes – also handle all intake. 5 year extension – rebid in 2020.

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## City of Wilsonville

	Contact	Dan Murphy – General Manager
1.	Person Spoken To	Delora Kerber PW Director
2.	What were the original drivers for Contract Operations?	Drivers on water – no operations staff Divers on WRP – mix of old and new plant – different technology would run plant during construction – finger pointing during construction. Have a lot of depth of staff – problem solving included in contract – DBO includes performance measures that must be met Benefit – buying power is greater than City alone
3.	What were the expected cost savings at the time?	WRP was expected – 15 years with 5 year option on contract. No expectations were listed
4.	What were the actual cost savings realized?	Believe they were met. ~3% inflation is budget – cost certainty for next 10 years
5.	Were there any long term impacts to customer relations?	Not there for water – but PR move related to water source – represented employees were upset a bit. Agreement on WRP picked up staff – cannot transfer without permission – fair pay Customers only worried about how much it was going to cost – had to raise rates 60% to get project completed

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## City of Brookings

	Contact	Tim Rettke (Interim PW Supervisor) (not very involved) Janelle Howard (Finance Director)
1.	What were the original drivers for Contract Operations?	Expertise outside organization – too small staffing concerns Financial was also driver Lot of fixed costs insurance, capital stayed with City
2.	What were the expected cost savings at the time?	~\$330K – on operations alone.
3.	What were the actual cost savings realized?	Cannot determine yet; will be less than \$330K due to pass through costs and capital improvements
4.	Were there any long term impacts to customer relations?	Jacobs took over 2 weeks after contract sign. Public process – but mostly ambivalent – no letters to editor either...
5.	Any other comments you can make regarding your change to Contract Operations?	ONLY water/wastewater treatment pump and lift station maintenance – still feels very new. Competitive salaries. Staff didn't want to change. Had positive experience in Coos Bay previous experience.

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## City of La Center, WA

	Contact	Jeff Sarvis
1.	What were the original drivers for Contract Operations?	Long time operator left abruptly – new mayor – immediately wanted to contract out. Process in place (legal requirements in WA). Cost savings was not a driver.
2.	What were the expected cost savings at the time?	No.
3.	What were the actual cost savings realized?	N/A
4.	Were there any long term impacts to customer relations?	N/A
5.	Any other comments you can make regarding your change to Contract Operations?	Decision was not made on cost. Went through full RFP and contract – but declined to move forward.

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## O&M Budget Survey

## Operation Budget Comparison

Typical areas with opportunities for cost savings

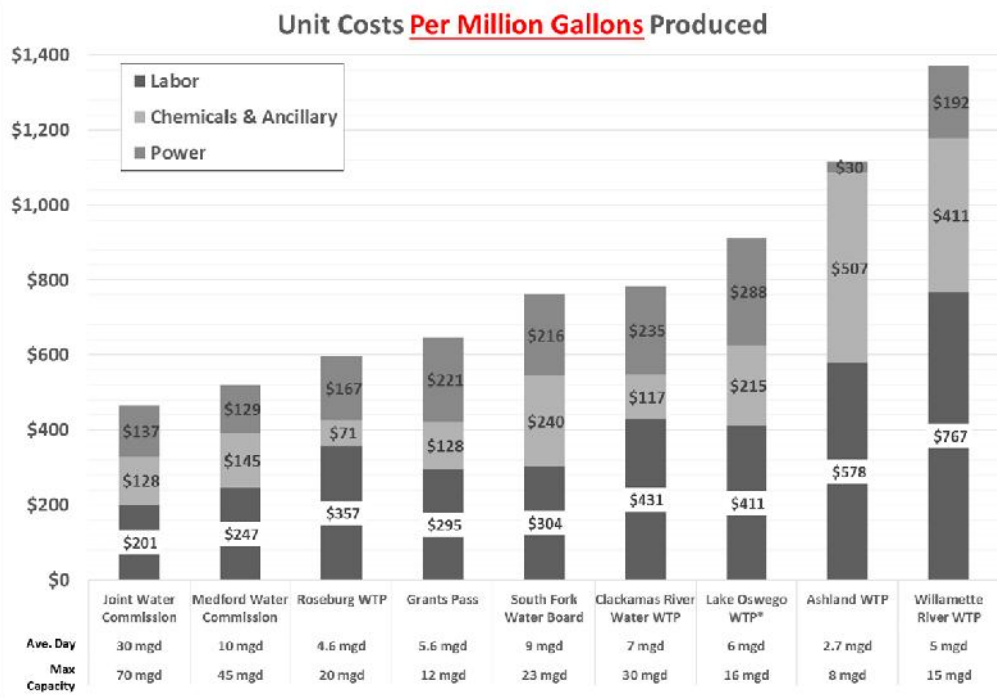


	Average Demand (MGD)	Annual Ops Cost	Labor	Chemicals & Ancillary	Power	Unit Cost (\$/MG)	FTEs
Joint Water Commission	30.0	\$5.1M	\$2.2M	\$1.4M	\$1.5M	\$474	18.0
Medford Water Commission WTP	10.0	\$1.9M	\$900K	\$530K	\$470K	\$520	9.0
Roseburg WTP	4.6	\$1.0M	\$600K	\$120K	\$280K	\$595	6.0
<b>Grants Pass</b>	<b>5.6</b>	<b>\$1.3M</b>	<b>\$600K</b>	<b>\$260K</b>	<b>\$450K</b>	<b>\$650</b>	<b>6.0*</b>
South Fork Water Board	9.0	\$2.5M	\$1.0M	\$790K	\$710K	\$761	9.0
Clackamas River Water WTP	7.0	\$2.0M	\$1.1M	\$300K	\$600K	\$782	10.0
Lake Oswego WTP	6.0	\$2.0M	\$900K	\$470K	\$630K	\$1,085	7.0
Ashland WTP	2.7	\$1.1M	\$570k	\$500K	\$30K	\$1,116	5.0
Willamette River WTP	5.0	\$2.5M	\$1.4M	\$750K	\$350K	\$1,465	8.0

\*0.5 FTE for pump stations

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## WTP Operations Budget Comparison



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## How Would Cost Savings be Realized by Others?

### Labor costs

... by *reducing staff numbers*

- Prior reports indicate that the WTP may be understaffed.
- The WTP runs start/stop, has implemented automation features, and utilizes seasonal labor to keep costs low

... by *reducing fringe benefits*

- City has proactively handled PERS liability

### Power costs

... by *optimizing consumption*

- No power intensive process components have been identified that could be optimized or retrofitted to appreciably reduce costs

### Chemicals costs

... by *reducing usage* or finding a *cheaper alternative*

- Review of chemical costs and usage align w/ other WTPs with similar water quality

### Maintenance costs

... by *adding staff expertise* or increasing *preventative maintenance*

- Current staff is well-trained and is implementing asset management

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## Moving Forward

- Limited opportunities for direct cost savings
  - Existing WTP operations are efficient
- Contract Operations decision does not need to be made at this time
  - Request for Proposals can be drafted and published immediately
  - However, the decision of whether to deliver via DBQ does need to be made near-term
- Decision could be revisited in future in the event of:
  - Major staffing change/turnover within WTP (or at oversight level)
  - Significant technology changes at the new WTP

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## Call to Action

**Call To Action Schedule: None – Staff are looking for guidance on Council preference on Contract vs. City Operations**

- **05/14/2018** – Water Treatment Plant Site Evaluation
- **05/23/2018** – Water Treatment Plant Delivery Method  
(10:30 – 1:30)

# **Appendix C – Project Delivery Method Selection Workshop**

City Council Presentation - May 30, 2018

A photograph showing two people sitting at a table in a modern office environment with glass walls. One person is looking at a laptop, and the other is looking towards the camera. The room has large windows and contemporary decor.

## AGENDA

- Purpose of Task Order No. 2 - Project Delivery Method
- Brief Recap of Delivery Methods
- Recommended Delivery Method
  - Eliminated options
  - Selection Criteria
  - Scoring Results
  - Recommendation
- Call to Action

2

## Delivery Methods

1. Design-Bid-Build (DBB)
2. Construction Manger / General Contractor (CM/GC)
3. Progressive Design Build (PDB)
4. Lump-Sum / Design-Build (LS/DB)
5. Design Build Operate (DBO)

## Quick Reference Matrix

Project Attribute	DBB	CM/GC	PDB	LS/DB	DBO
<b>Procurement Selection</b>	Low bidder	Qualifications and some cost components	Qualifications and some cost components	Best value; price, proposal, and qualifications	Best value; price, proposal, and qualifications
<b>Contracts</b>	Design + Construction	Design + Preconstruction/ Construction	Design build	Design build	Design build (+ operate)
<b>Contractor involvement during design</b>	None	Yes + significant owner involvement	Yes + significant owner involvement	Yes, + <b>limited</b> owner involvement	Yes, + <b>very limited</b> owner involvement
<b>Design Risk</b>	Owner	Owner	Design builder	Design builder	Design builder
<b>Project Price</b>	Lump Sum	GMP	GMP	Lump Sum	Lump Sum
<b>Schedule</b>	Sequential, but known process	Potential for efficiencies	Potential for efficiencies	Potential for efficiencies	Potential for efficiencies

## Cost Comparison



- We expect similar capital costs for all delivery methods
- A focus on proper risk allocation can result in lower risk costs
  - Fewer contingencies
  - Better ability to manage risk

\*Not to scale... for illustrative purposes only

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## Narrowing the Decision

### Private Operations

- Doesn't need to be decided now

### Private financing

- Significantly more expensive
- Reserved for unique situations

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## Selection Criteria and Process

### Selection Process

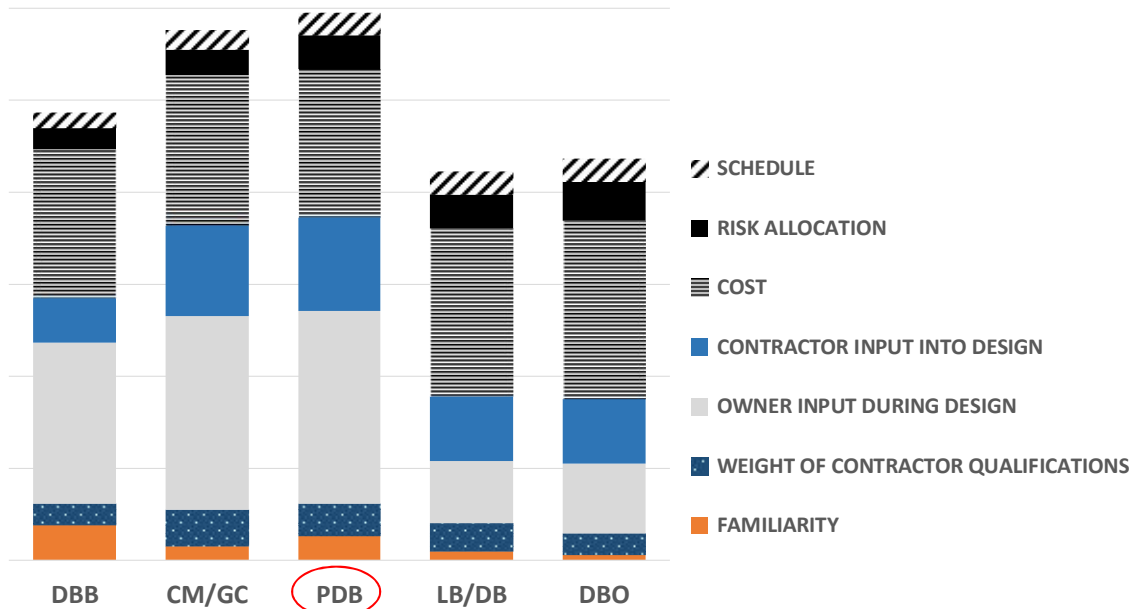
1. Developed evaluation criteria
2. Independently weighted each criteria
3. Independently scored each alternative
4. Collectively discussed results

## Selection Criteria

1. Familiarity:	Project delivery method familiarity	3.8%
2. Selection of Contractor:	Ability to weigh contractor qualifications during final selection	6.0%
3. Owner-Input During Design:	General project objectives Weighing quality vs. costs O&M staff input during design Sequencing	29.7%
4. Contractor Input During Design:	Constructability and innovations Cost estimates and schedule information	15.4%
5. Cost Factors:	Cost information Innovation and value engineering Competitive bidding environment Contingency pricing Life Cycle costs	34.1%
6. Risk Allocation:	Flexible and appropriate risk allocation	6.6%
7. Schedule:	Potential scheduling efficiencies	4.4%

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## Criteria Scoring Results



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## Progressive Design/Build

1. Single contract will yield better risk allocation
2. Progressive development of scope will:
  - A. Reduce contingency pricing
  - B. Provide better price information for more informed decisions
3. Leaves open the possibility of private operations
  - A. Contract will be place (or completed)
  - B. Plant performance will be guaranteed
4. Staff familiarity

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## A word on DBO...

1. Concerns about competition (limited number of DBO firms in OR)
  - A. May affect the quality of the responses
  - B. May affect the price proposals
2. Typical benefits of DBO are not significant benefits for Grants Pass:
  - A. Guarantees regarding:
    - 1) Performance
    - 2) Schedule
    - 3) Regulatory compliance
  - B. Risk allocation
3. Some concerns regarding DBO are significant to Grants Pass:
  - A. Ensuring long-term stewardship of the WTP
4. Private operations decision can be made later

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## Call to Action

- **Move project forward with PDB**